

Quick Directions for the Indices Calculator Online GIS Application

1. Go to <https://rcweb.dartmouth.edu/Geospace/indicesCalc/> (uppercase/lowercase matters) and click on one of the links to the map pages.

2. When the map page loads, there will be an overlay text box with instructions. When you are ready to begin using the map, click the **close** button at the top of the instructions box.

Initially, the map overlay will be displaying **population density**. You can change this using the **layer controls** at upper right. Note that the individual **racial/ethnic group layers** are classified based on the group's percentage of the total population. This is shown in the **map legend** at lower left.

At coarse scales, the map overlays will show **counties**. As you zoom in to a finer spatial scale, the map will switch to showing more detailed **census tracts**. A reference basemap with streets, rivers, and other features will be faintly visible through the partially transparent tracts layer.

You can show (or hide) **map labels** using the check-box in the layer control list at upper right.

3. Zoom in on your area of interest, via either of the following:

- (a) Use the **navigation tools** (+ -) at upper left, or the mouse scroll wheel, to manually zoom in on the area where you want to work; or
- (b) Enter a street address in the **search box** at upper right.

You should zoom in far enough that you can clearly see (and click on) individual census tracts within the neighborhood of your choice.

4. Use the **click tools** radio buttons at upper left to control what happens when you click on a census tract – you can view the data for that tract (**show tract data**), add tracts to the current selection (**select tracts**), or remove tracts from the current selection (**unselect tracts**). You can also clear the selection entirely (**clear all**) to start over.

5. When you have one or more tracts selected, the indices for the neighborhood will automatically be calculated. To display the indices calculator results, click **output results** in the set of radio buttons labeled **display** at left. An example of the calculations is shown on the next page.

6. When the **output results** page is visible, you can copy the results to the clipboard and paste them into a word processing document or other destination. To return to the main map, click the **close** button.

8. Notes on the results:

- In the Dissimilarity and Exposure matrices, values of “NaN” (“not a number”) occur on the major diagonal; these can be ignored.
- The Dissimilarity Matrix is symmetric; Asian/Hispanic is the same as Hispanic/Asian.
- The Exposure Matrix is *not* symmetric. Rows represent Group 1 (“exposure from”) and columns are Group 2 (“exposure to”).

Output example for a neighborhood in Chicago

Population of 23 selected tracts:

White: 10,487
Black: 50,302
Hisp.: 36,625
Asian: 1,492
H/Pac: 46
NatAm: 164
Total: 100,291

Entropy: 0.5017

Dissimilarity:

	White	Black	Hisp.	Asian	H/Pac	NatAm
White	NaN	0.8655	0.5995	0.2624	0.5055	0.5138
Black	0.8655	NaN	0.812	0.8099	0.8508	0.4512
Hisp.	0.5995	0.812	NaN	0.6335	0.7796	0.5804
Asian	0.2624	0.8099	0.6335	NaN	0.3345	0.5239
H/Pac	0.5055	0.8508	0.7796	0.3345	NaN	0.6821
NatAm	0.5138	0.4512	0.5804	0.5239	0.6821	NaN

Exposure:

In the output matrix, rows are Group 1 ("exposure from") and columns are Group 2 ("exposure to").

	White	Black	Hisp.	Asian	H/Pac	NatAm
White	NaN	0.1656	0.3522	0.0565	0.0019	0.0024
Black	0.0345	NaN	0.1092	0.0049	0.0001	0.0017
Hisp.	0.1009	0.15	NaN	0.0133	0.0004	0.0013
Asian	0.3971	0.1668	0.3271	NaN	0.0026	0.0026
H/Pac	0.4246	0.1523	0.2965	0.0848	NaN	0.0029
NatAm	0.1506	0.511	0.2962	0.0239	0.0008	NaN

All categories are based on those used by the US Census Bureau. Abbreviations:

White = White, non-Hispanic

Black = Black or African-American, non-Hispanic

Hisp. = Hispanic or Latino, any race

Asian = Asian

H/Pac = Native Hawaiian or other Pacific Islander

NatAm = Native American/American Indian or Alaska Native